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**A WEEKLY REVIEW OF CANADIAN CLIMATE**

**CLIMATIC PERSPECTIVES**

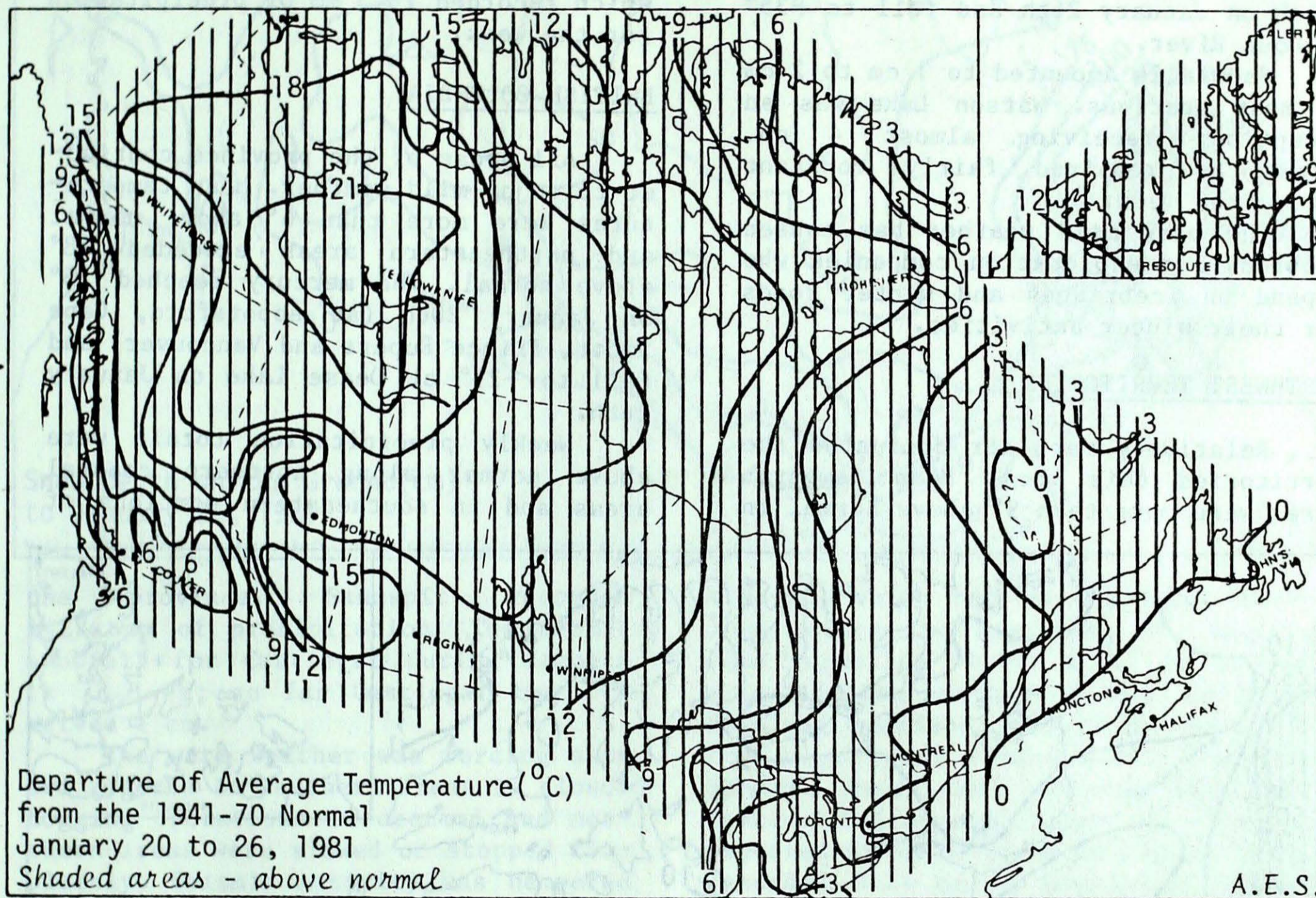
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THE CANADIAN CLIMATE CENTRE,  
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**WEATHER HIGHLIGHTS FOR THE PERIOD - JANUARY 20-26, 1981**

Warm air covers the country and snow arrives in southern Alberta

With the exception of the Maritimes, most of the country enjoyed above normal temperatures. The southern Mackenzie District recorded mean temperatures of more than  $21^{\circ}$  above normal. Many high temperature records were set across the Northwest Territories. The warm air continued to cause problems in British Columbia. Ski resorts were closing and two bulldozers disappeared into the muskeg.

Extreme southern Alberta, which had been without snowcover since the beginning of January, received snow from a storm over the weekend. Snowcover now varies from 17 cm at Lethbridge to 1 cm at Calgary.

Temperatures varied from a maximum of  $16^{\circ}$  (Calgary, Lethbridge and Rocky Mountain House) to a minimum of  $-42^{\circ}$  (Shepherd Bay). Sandspit B.C. recorded 142.6 mm of precipitation.

**NOTE:** The data shown in this publication are based on unverified reports from approximately 225 Canadian and 115 northern United States Synoptic stations.



YUKON

Although the extremely warm readings of the previous week were not reported this week, temperatures were still 10° to 20° above normal at most stations. Most sites had maximums around 2° or 3° at the beginning of the week, but slightly cooler below freezing temperatures were general by the 26th. The mercury rose to 5° at Komakuk Beach on January 26th and fell to -35° at Ross River.

Snowfalls amounted to 1 cm to 2 cm at most stations. Watson Lake was an exception, receiving almost 4 cm. Snowdepths remained fairly constant during the week.

The very mild weather has caused problems for exploration companies who depend on icebridges and winter roads for their winter activities.

NORTHWEST TERRITORIES

Relatively warm air dominated the Territories this week. Mean temperatures were more than 9° above normal in

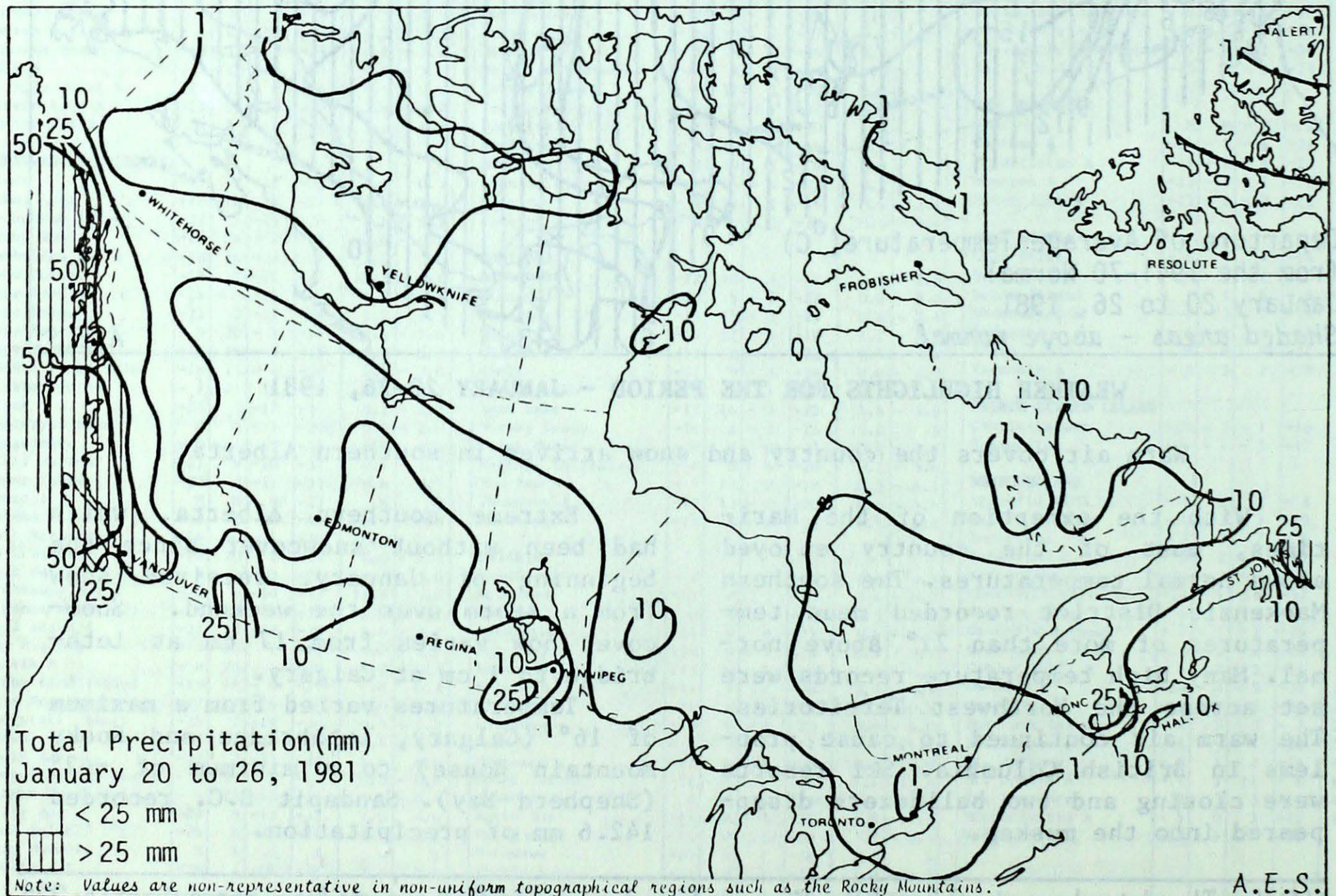
most areas. The southern Mackenzie District enjoyed mean temperatures more than 21° above normal. Numerous high temperature records were set, some exceeding the previous record maximum by 10°. The mercury reached 8° at Fort Smith and Hay River on January 20th. The temperature fell to -42° at Shepherd Bay on January 26th.

Precipitation was generally light with the exception of Chesterfield which recorded 16.3 mm of precipitation for the week.

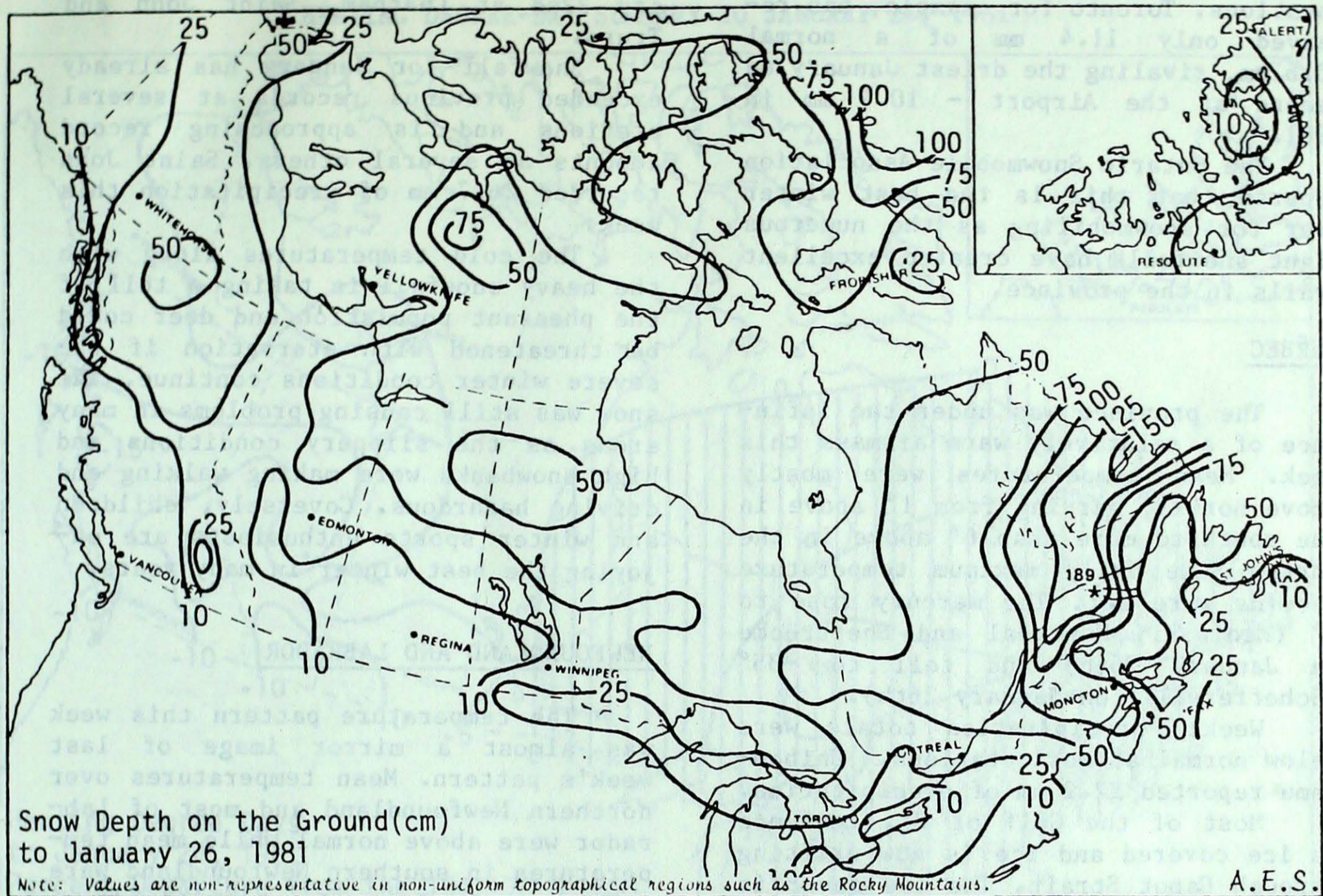
BRITISH COLUMBIA

All areas of the province continued to enjoy mild weather. Mean temperatures were more than 6° above normal and northeastern areas exceeded 18° above normal. The mercury reached 15° on January 20th (at Abbotsford, Cape Scott, Prince Rupert and Vancouver) and fell to -25° at Dease Lake on January 26th.

Weekly precipitation totals were above normal along northern coastal areas and in southeastern portions of







the province. Sandspit recorded 142.6 mm of precipitation. The normal snowfall for Castlegar during January is 78.8 cm; so far Castlegar has received 1 cm.

The warm weather was forcing some ski resorts in southern areas to close. Logging operations in central and northern areas were slowed or stopped completely. Seismic activity was hampered and two caterpillar bulldozers were lost when they broke through the frost and disappeared into the muskeg.

#### PRAIRIE PROVINCES

Mean temperatures rose even higher above the normal this week. Most areas exceeded 12° above normal and some areas of northern Alberta were more than 21° above normal. The mercury reached 16° at Calgary and Lethbridge on January 20th and at Rocky Mountain House on January 22nd. It fell to -31° at Cree Lake on January 26th.

Over the weekend a snowstorm affected extreme southern portions of the prairies. The extreme southern areas of

Alberta, which had been without snow-cover since the beginning of January, were reporting 10 cm to 17 cm on the ground in the south to 1 cm at Calgary. Winnipeg received 17.5 cm of snow and the airport was closed for 8 hours on Sunday. Unofficial reports from the Pembina Valley southwest of Winnipeg reported 69 cm of snowfall. Pilot Mound recorded 34.4 mm of precipitation for the week, most of which fell on the 25th.

#### ONTARIO

The proverbial "January thaw" arrived just about on schedule in southern and central Ontario this week, as temperatures reached 5° to 8° on January 26th. Muskoka, Trenton and Wiarton all equalled record maximum temperatures for the day with 8° readings. Mean temperatures in western Ontario exceeded 12° above normal. The mercury fell to -29° at Lansdowne House on January 26th.

Total precipitation still continues below normal for January in many



locations. Toronto for example, has received only 11.4 mm of a normal 55.6 mm, rivaling the driest January on record at the Airport - 10.9 mm in 1961.

The Ontario Snowmobile Association reports that this is the best winter ever for snowmobiling as the numerous light snowfalls have created excellent trails in the province.

### QUÉBEC

The province was under the influence of a relatively warm airmass this week. Mean temperatures were mostly above normal, varying from 1° above in the south to more than 6° above in the north. Some daily maximum temperature records were set. The mercury rose to 7° (Maniwaki, Montréal and Sherbrooke on January 26th) and fell to -35° (Schefferville on January 26th).

Weekly precipitation totals were below normal at most stations. Chibougamu reported 22.2 mm of precipitation.

Most of the Gulf of St. Lawrence is ice covered and ice is now drifting through Cabot Strait. The ice cover is about 3 weeks ahead of normal.

### MARITIMES

The cold weather covering the Maritimes moderated this week. By week's end temperatures rose above freezing for one of the few times this month and some rain was reported. The mercury reached 6° at Greenwood on January 26th and fell to -24° on Janu-

ary 22nd at Chatham, Saint John and Truro.

Snowfall for January has already exceeded previous records at several stations and is approaching record amounts at several others. Saint John recorded 26.7 mm of precipitation this week.

The cold temperatures along with the heavy snowfall is taking a toll of the pheasant population and deer could be threatened with starvation if the severe winter conditions continue. The snow was still causing problems in many areas as the slippery conditions and high snowbanks were making walking and driving hazardous. Conversely, children and winter sports enthusiasts are enjoying the best winter in many years.

### NEWFOUNDLAND AND LABRADOR

The temperature pattern this week was almost a mirror image of last week's pattern. Mean temperatures over northern Newfoundland and most of Labrador were above normal while mean temperatures in southern Newfoundland were below normal. The mercury rose to 1° at Argentia and Burgeo during the period of January 24th to 26th and fell to -37° at Wabush Lake on January 22nd.

Precipitation totals were below normal at most stations. St. John's recorded 30.5 mm of precipitation for the week.

The ice off Labrador is 100-160 km wide and extends southeast of Newfoundland to Notre Dame Bay.

#### CLIMATIC PERSPECTIVES

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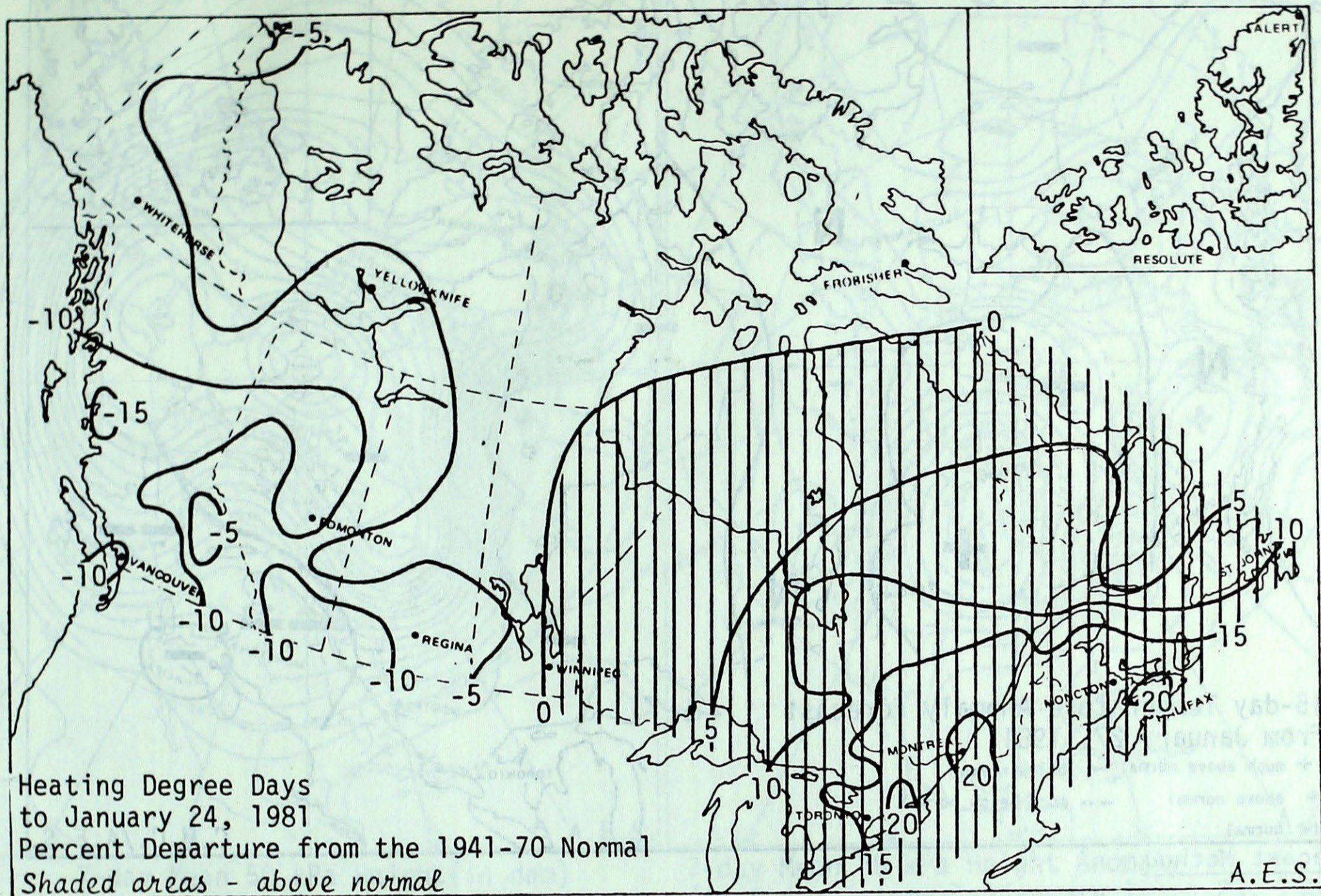
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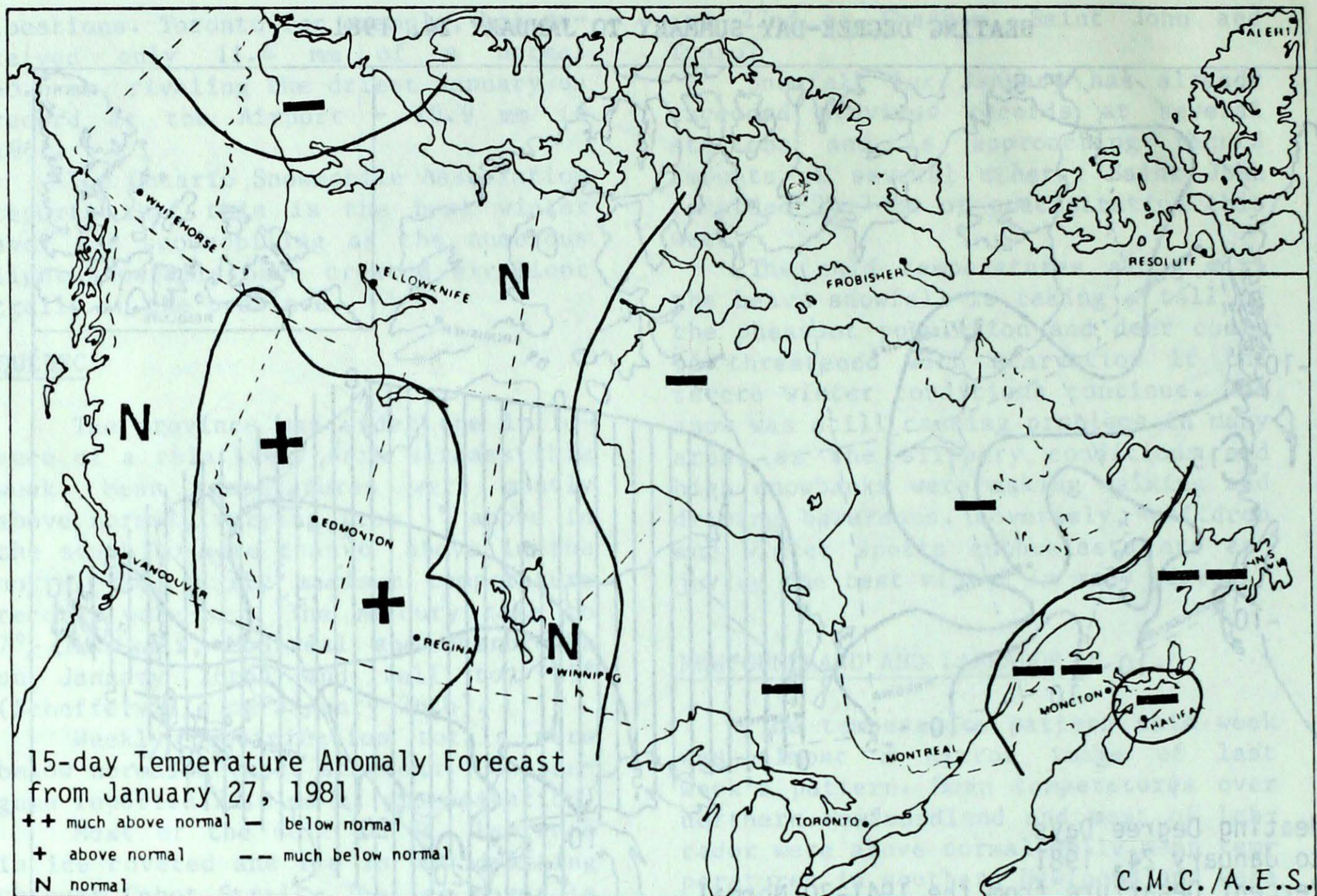
HEATING DEGREE-DAY SUMMARY TO JANUARY 24, 1981



STATION	MONTHLY CUMULATIVE TOTAL	MONTHLY DIFF. FROM 1941-70 NORMAL	SEASONAL TOTAL	SEASONAL DIFF. FROM 1941-70 NORMAL	SEASONAL PERCENT OF NORMAL
Resolute	1087.0	-117.0	6376.5	-156.5	98
Inuvik	758.0	-405.0	5072.5	-307.5	94
Whitehorse	472.0	-421.0	3667.5	-230.5	94
Vancouver Int'l A	295.0	-82.0	1489.5	-119.5	93
Edmonton Mun A	511.0	-276.0	2734.0	-341.0	89
Calgary Int'l A	409.5	-279.5	2502.0	-365.0	87
Regina	677.0	-165.0	2925.0	-240.0	92
Winnipeg Int'l A	765.5	-95.5	3104.0	-4.0	100
Thunder Bay	753.5	-32.5	3090.5	102.5	103
Windsor	622.0	92.0	2073.0	235.0	113
Toronto Int'l A	708.5	128.5	2401.5	335.5	116
Ottawa Int'l A	819.0	123.0	2873.0	431.0	118
Montreal Int'l A	837.0	174.0	2872.5	571.5	125
Quebec	661.5	158.5	3122.0	509.0	119
Saint John, N.B.	741.0	138.0	2712.0	357.0	115
Halifax	602.5	87.5	2263.5	341.5	118
Charlottetown	691.0	106.0	2536.5	354.5	116
St. John's, Nfld.	496.5	-13.5	2474.5	220.5	110



## 15 DAY TEMPERATURE ANOMALY FORECAST

Forecast Method

Analogue technique based on point prediction at 70 Canadian stations.

Temperature Scale

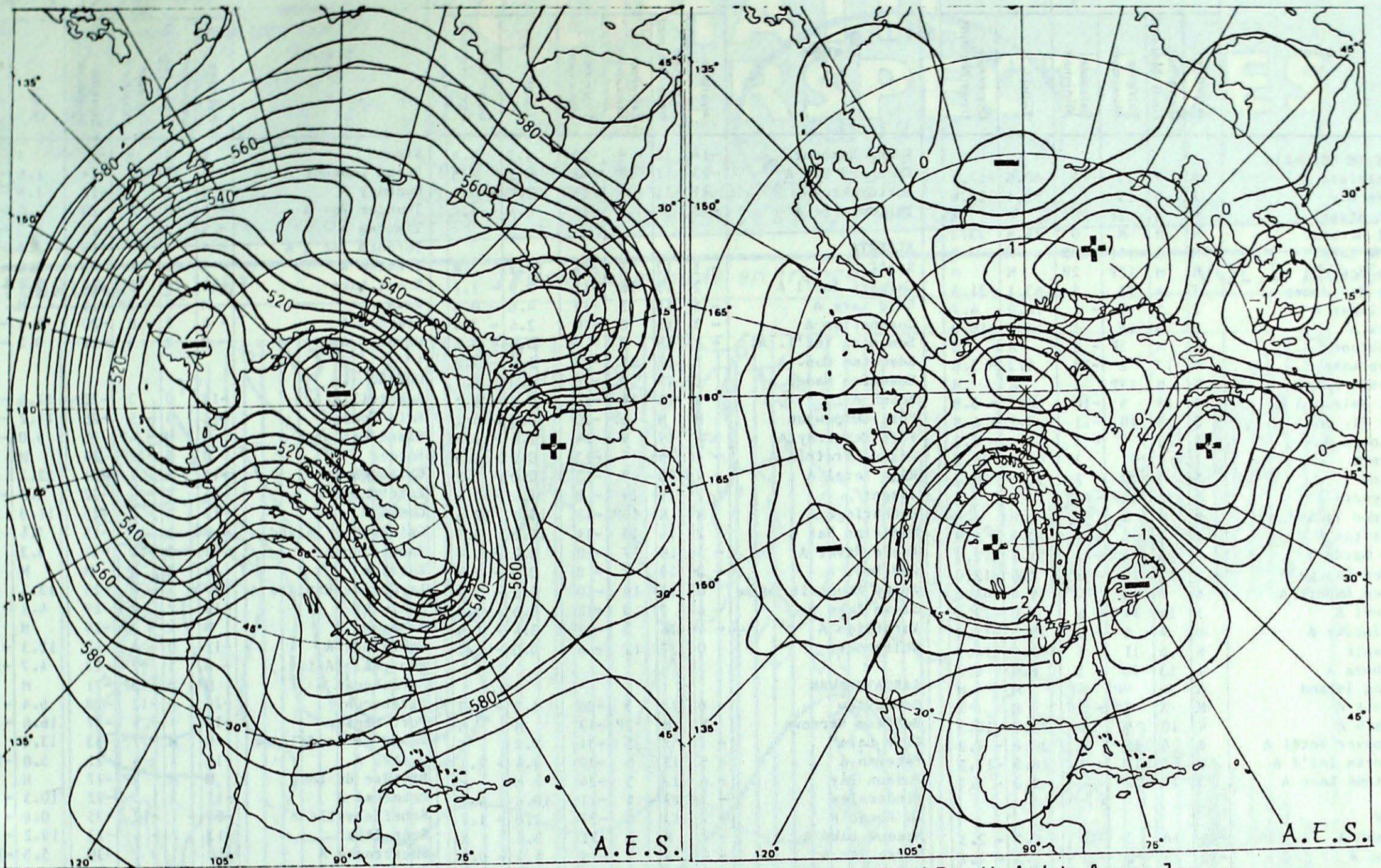
Each temperature class is designed to contain 20% of the historically observed 15 day means pertinent to specific location and time of year:

<u>Station</u>	<u>Current Temperature Anomaly Forecast</u>	
Whitehorse	Near Normal	Within 1.6° of Normal
Victoria	Near Normal	Within 0.6° of Normal
Vancouver	Near Normal	Within 0.6° of Normal
Edmonton	Above Normal	From 1.4° to 4.7° above Normal
Regina	Above Normal	From 1.3° to 4.2° above Normal
Winnipeg	Near Normal	Within 1.1° of Normal
Thunder Bay	Below Normal	From 0.9° to 3.0° below Normal
Toronto	Below Normal	From 0.7° to 2.4° below Normal
Ottawa	Below Normal	From 0.8° to 2.7° below Normal
Montreal	Below Normal	From 0.8° to 2.7° below Normal
Quebec	Much Below Normal	More than 2.9° below Normal
Fredericton	Much Below Normal	More than 2.9° below Normal
Halifax	Below Normal	From 0.7° to 2.2° below Normal
Charlottetown	Below Normal	From 0.8° to 2.6° below Normal
St. John's	Much Below Normal	More than 2.3° below Normal
Goose Bay	Below Normal	From 1.3° to 4.5° below Normal
Frobisher Bay	Below Normal	From 1.5° to 5.1° below Normal
Inuvik	Below Normal	From 1.3° to 4.2° below Normal

Note: Anomaly denotes departure from the 1949-73 mean.



## Atmospheric Circulation



7-day Mean 50 kPa Height (in dam)  
January 19 to 25, 1981

7-day Mean 50 kPa Height Anomaly  
(in 5 dam intervals) January 19 to 25, 1981

The mean atmospheric circulation across North America continued much the same as last week except for the major features having shifted slightly more to the east.

The anomalous 50 kPa ridge presided over western and central Canada as did the long wave trough over the eastern half of the country. Height anomalies contrasted sharply from west to east. They were more than 30 dam above normal over northern Saskatchewan and Manitoba while negative heights of more than 20 dam were evident over the Atlantic Provinces.

The well established Omega Block over western North America continued to deflect Pacific cyclonic systems north-eastwards. During the latter half of the period a split in the upper flow developed, with the base of the ridge taking on a more west-east trajectory over the northwestern United States.

This permitted atmospheric triggering pluses and their associated low pressure disturbances to track inland across the Continental Divide.

Mild temperatures pushed eastward encompassing most of the country. Even areas under the influence a northwesterly flow have experienced above normal mean temperatures; this due to the fact that the normally very cold air in the Canadian Arctic has been temporarily exhausted.

Precipitation amounts across the country were generally light. The Atlantic provinces have received a long awaited reprieve. Heavier precipitation fell in southern British Columbia and southern Alberta due to a more on-shore trajectory of the surface storm track. A freak narrow band of heavy snow fell on parts of southern Manitoba Sunday due to a well developed but dry low pressure system approaching the upper Great Lakes.

Andy Radomski



TEMPERATURE AND PRECIPITATION DATA FOR THE WEEK ENDING 0600 G.M.T. JANUARY 27, 1981

Table with columns: Station, Temperature (°C) [Average, Departure from Normal, Extreme Maximum, Extreme Minimum], Precip. (mm) [Total, Departure from Normal]. Rows include British Columbia, Yukon, Northwest Territories, and Ontario stations.

Table with columns: Station, Temperature (°C) [Average, Departure from Normal, Extreme Maximum, Extreme Minimum], Precip. (mm) [Total, Departure from Normal]. Rows include Alberta, Saskatchewan, Manitoba, and Ontario stations.

Table with columns: Station, Temperature (°C) [Average, Departure from Normal, Extreme Maximum, Extreme Minimum], Precip. (mm) [Total, Departure from Normal]. Rows include Quebec, New Brunswick, Prince Edward Island, and Newfoundland stations.

P = extreme value based on less than 7 days X = no normal due to short period M = not available at press time